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Indomya, a New Subgenus of *Pholadomya* from the Middle Jurassic of Kachchh, Western India (Bivalvia: Pholadomyidae)

by

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Abstract. A new subgenus of *Pholadomya,* ***Indomya,*** type *Pholadomya* (***Indomya***) ***rajnathi*** Jaitly, spec. nov., is described on the basis of four specimens from the Middle Bathonian (Middle Jurassic) of Kala Dongar, Pachchham Island, District Kachchh (Gujarat), Western India. ***Indomya*** differs from other members of *Pholadomya* by its faint vertical umbonal-ventral sulcus, an oblique posterior ridge, and surface ornamentation that consists of both concentric and radial ribs or threads.

INTRODUCTION

THE FAMILY Pholadomyidae Gray is represented in Kala Dongar by five genera: *Pholadomya* G. B. Sowerby, *Homomya* Agassiz, *Oestomya* Moesch, *Pachymya* J. Sowerby, and *Agrawalimya* Singh, Jaitly & Pandey. *Agrawalimya* was created for specimens having a sulcus with asymmetrically inclined walls and extending from the umbo to just anterior to the middle of the ventral margin. The genus was tentatively referred to the Pholadomyidae because a sulcus was not previously considered to be of generic or subgeneric importance. However, this feature is frequently observed in many Middle Jurassic species of *Pholadomya,* and MOESCH (1878:58) and FURSICH (1982: 96) even mentioned the presence of a shallow sulcus between the second and third anterior ribs in *Pholadomya* (*Pholadomya*) *hemicardia* Roemer. Subsequently, additional specimens have been collected that have an outline similar to that of *Pholadomya* and *Homomya,* but which also possess a faint sulcus in the anterior third of the shell. To receive them, a new subgenus is created and tentatively assigned to the genus *Pholadomya.*

A new subgenus, ***Indomya,*** with *Pholadomya* (***Indomya***) ***rajnathi*** Jaitly, spec. nov. as type, is described from Middle Bathonian rocks of Kala Dongar, Pachchham Island, Kachchh, India. The geology and stratigraphy of the area is described by JAITLY (1985); for location see JAITLY & SINGH (1983).

SYSTEMATIC PALEONTOLOGY

Class Bivalvia
Order Pholadomyoida
Suborder Pholadomyacea
Family Pholadomyidae

Pholadomya Sowerby, 1823

Type: *Pholadomya candida* G. B. Sowerby, 1823, by subsequent designation of Gray, 1847.

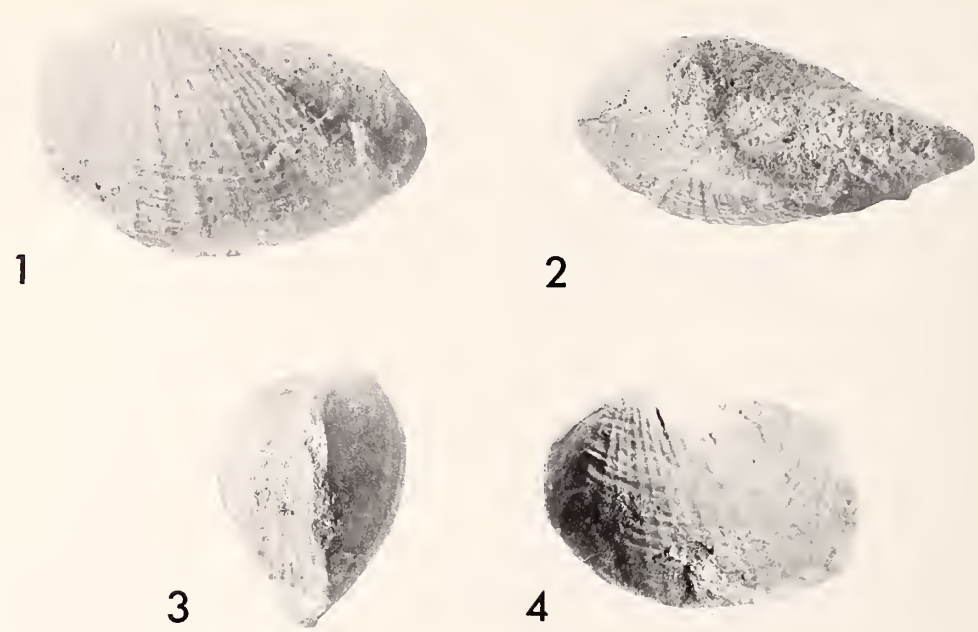
(***Indomya***) Jaitly, subgen. nov.

Etymology: Named after India.

Type: *Pholadomya* (***Indomya***) ***rajnathi*** Jaitly, spec. nov., Middle Bathonian (Jurassic), Kachchh, India.

Diagnosis: Shell sublunate with tapering posterior; surface with shallow, gradually downward widening sulcus extending vertically from anterior of umbo to ventral margin and oblique posterior ridge; ornamentation of both concentric and radial ribs or threads.

Remarks: In shape and size, ***Indomya*** is similar to *Pholadomya* s.s. and *Homomya.* The surface ornamentation, which consists of prominent radials that extend to the ventral margin, more closely resembles that of *Pholadomya* s.s. In *Homomya,* radial ornamentation is generally absent and, if present, is restricted to the umbonal region. *Tetorimya* HAYAMI (1959:151), from the Upper Jurassic of Japan, resembles ***Indomya*** in size and position of posterior gape, but lacks the vertical sulcus in the anterior region and differs in surface ornamentation. *Agrawalimya* differs in nature and position of its sulcus and the lack of radial ribs, which are prominent in ***Indomya***.



Explanation of Figures 1 to 4

Pholadomya (***Indomya***) ***rajnathi*** Jaitly, subgen. et spec. nov.

Figure 1. Holotype PK/139/3; Middle Bathonian, Kala Dongar, Kachchh, India; exterior view of left valve.

Figure 2. Holotype, dorsal view.

Figure 3. Holotype, anterior view.

Figure 4. Paratype PK/145/5; Middle Bathonian, Kala Dongar, Kachchh, India; exterior view of left valve.

Pholadomya (***Indomya***) ***rajnathi*** Jaitly, spec. nov.

(Figures 1–4)

Etymology: Named for the late Prof. Rajnath, an expert on the Kachchh Jura.

Diagnosis: As for the genus.

Types: Four paired specimens: **holotype**, PK/139/3, and three **paratypes,** PK/145/5, PK/145/3, and PK/141/11, deposited in the Invertebrate Paleontology Laboratory, Department of Geology, Banaras Hindu University, Varanasi 221 005, India.

Type locality: Middle Bathonian of Pachhmaipir, Kala Dongar (23°48′39″N, 69°50′E), Pachchham Island, Kachchh, India.

Description: Shell medium sized (to 5 cm in length), highly inequilateral, moderately inflated and sublunate with tapering posterior end. Maximum inflation lies below umbones, about one-third of distance to ventral margin. Umbones orthogyrous, incurved, contiguous, and situated 6 to 8 mm from the anterior end. Lunule poorly defined, broadly ovate and small; escutcheon indistinct. Anterior margin broadly rounded, posterior margin acutely convex; ventral margin asymmetrically and gently convex, merging with anterior and posterior in smooth curves. An obtusely rounded ridge, defined by the abruptly steeper slope of the surface posterior to it, extends obliquely from the umbo to the ventral margin slightly anterior to the postero-ventral end of shell. A shallow, broadly rounded sulcus extends vertically from the umbo downwards, gradually becoming shallower and wider.

Surface sculpture consists of both concentric and radial ribs and (or) threads. The area anterior to the sulcus has only a few weak radial threads, but the area between the sulcus and the oblique ridge has narrow, widely spaced radial ribs. The area just posterior to the sulcus has four prominent ribs with a secondary riblet in each interspace. The secondaries gradually become stronger posteriorly and primaries become weaker, so that both are of equal strength and arranged in pairs. The area posterior to the oblique ridge is devoid of radial ornamentation and possesses only concentric ribs. Internal characters are unknown.

Dimensions (mm):

Specimen no.	Length	Height	Inflation
PK/139/3 (holotype)	49.5	33.5	24.5
PK/145/5 (paratype)	48.5	33	24
PK/141/11 (paratype)	54	38.5	31
PK/145/3 (paratype)	59	39	29

Remarks: The present specimens show some similarities in general outline and surface ornamentation to *Pholadomya inaequiplicata* Stanton (Imlay, 1964:C-36, pl. 4, figs.

37–38) and *Pholadomya ovalum* Agassiz (LYCETT, 1863: 84, pl. 35, figs. 18, 18a). However, both *P. inaequiplicata* and *P. ovalum* lack the anterior sulcus and the posterior ridge.

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